INITIAL SITE RESPONSE PLAN

SAVANNAH RIVER SITE

SAVANNAH RIVER SITE
MANAGEMENT RESPONSE PLAN
FOR THE
CHEMICAL SAFETY VULNERABILITY FIELD ASSESSMENT

Introduction

As part of the U. S. Department of Energy's (DOE) initiative to identify potential chemical safety vulnerabilities in the DOE complex, the Chemical Safety Vulnerability Core Working Group issued a field verification assessment report. While the report concluded that Savannah River Site (SRS) is moving in a positive direction, the report also identified five chemical safety vulnerabilities with broad programmatic impact that are not easily or quickly remedied. The May 1994 SRS Management Response Plan addressed the five SRS vulnerabilities identified in the field assessment report. The SRS response plan listed observations supporting the vulnerabilities and any actions taken or planned toward resolution. Many of the observations were resolved by simple explanations, such as the existence of implementation plans for Safety Analysis Report updates. Recognizing that correcting individual observations does not suffice in remedying the vulnerabilities, a task team was assembled to address the broader programmatic issues and to recommend corrective actions.

Response Summary

This September 1994 SRS Management Response Plan outlines the corrective actions SRS will take to provide a coordinated chemical safety program. The foundation for a sitewide coordinated chemical safety program is based on using the existing safety infrastructure ensured by the Site Safety Review Committee (SSRC). The SSRC has assumed responsibility for ensuring that a coordinated site chemical safety program will be implemented through the existing Process Safety Management (PSM) subcommittee and the newly formed Chemical Commodity Management Center (CCMC) per Figure 1. The PSM Subcommittee will establish a sitewide PSM program consistent with the DOE requirements and site policy. The CCMC will be responsible for the acquisition of new chemicals/chemical products and will work with chemical and environmental coordinators to manage the disposition of excess chemicals and to maintain a site chemical inventory.

In response to the observation that hazards analysis/reviews of DOE-related projects were inadequate, Westinghouse Savannah River Company (WSRC) is applying an overall, programmatic approach rather than several superficial fixes. First, an Industrial Hygiene Screening Checklist is being developed to provide a uniform approach to the review of work packages. Second, an industrial hygienist has been assigned to review transition, decontamination and decommissioning (D&D), and environmental restoration projects. In addition, two procedures in the Site Safety Manual are being revised to require a graded approach hazards review appropriate to the scope of the job and applicable to activities requiring a Works Clearance Permit and Process System Access. A Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued in June 1994. This document outlines the requirements and the sequence of activities required to transition a facility from deactivation to safe storage and eventual D&D.

The last part of the coordinated chemical safety program is the chemical inventory management and enhanced sitewide hazard communication. The mission of the CCMC will include the acquisition of all chemicals and chemical products, the disposition of unused or excess chemicals, and database support for site groups required to report chemical data and waste minimization initiatives to external agencies. This will include the maintenance of a sitewide chemical inventory and a means of tracking chemicals from procurement, to ultimate use, to excessing. As a part of the writing/reviewing/approving process for the procurement of chemicals, criteria will include

evaluating nonhazardous substitutes and re-using current excess and existing inventories. Current stock items will be reviewed for opportunities to reduce inventory and toxicity levels.

Because of the timing of this response plan, Action Items committed for FY95 are not included in the FY95 Annual Operating Plan. A change control notice may be required in order to shift priorities and provide funding for these activities.

CHEMICAL SAFETY VULNERABILITY REVEIW
September 1994

Site/Faciltiy: Savannah River **Vulnerability Number: CSVR-SRS-0000-01**
Point of Contact: E. J. Kahal/S. R. Salaymeh

Vulnerability:

Some facility work packages are not receiving adequate hazards analysis.

Summary of Vulnerability:

In some cases, the chemical safety and hazard analyses for work planning and emergency response planning are not complete or adequate. This problem is compounded for Decontamination and Decommissioning (D&D) activities due to inexperience in conducting these types of activities, lack of overall understanding of the associated problems, and lack of defined operating parameters. Also, chemical safety has not been given sufficient priority in the past.

Response:

WSRC continually strives to improve safety documentation and has submitted a detailed implementation plan for DOE Order 5480.23. Basis for Interim Operations (BIO) documents are being developed on an accelerated basis and will satisfy the need for chemical safety analysis. A thorough characterization and hazards analysis will be required before any D&D activity will be performed by the WSRC Solid Waste/Environmental Restoration and Transition D&D Department. A Basic Requirement document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued in June 1994.

Industrial Hygiene (IH) will develop a screening checklist for the site procedures manual outlining work package and job plan review criteria to be submitted to Standards Management by November 30, 1994. Once this procedure has been approved, a letter will be sent to affected divisions and facility management for implementation into work control procedures to direct the work planners, operators, and engineers.

A supporting observation associated with this vulnerability was a restricted workday case recorded when an employee received second-degree burns after being sprayed with 94 percent sulfuric acid from a broken acid line. An enhancement to the site maintenance programs in response to this incident will be the integration of the Predictive and Preventative Maintenance programs of various site maintenance organizations by March 1995.

Since lead is anticipated to be a major concern in future TD&D projects, the site established a Lead Committee to address programmatic issues involving lead. The Site Lead Committee will develop a lead compliance program to coordinate lead removal and management. The program will be consistent with initiatives to address employee exposure, waste, and environmental issues associated with lead.

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-01**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Industrial hygiene review of work packages for hazard analysis is not always thorough and complete and may result in workers not being knowledgeable of the hazards associated with the job being performed. This is, in part, due to (1) pressure from work-package originators for quick turnaround of the work packages in the work review cycle and (2) not being requested to be involved in the pre-bid phase for subcontracts. The Lead job at 784-A and the carpet removal at 773A & 735A are examples described below.	An Industrial Hygienist has been assigned to review TD&D and environmental restoration projects. This will help IH make better use of its staff.	Closed 5/94	R. E. Moore
94-0195		An Industrial Hygiene Screening Checklist Procedure for the Site Industrial Hygiene 4Q Manual will be delivered to the Management Standards Review by November 30, 1994. This procedure will outline work package and job plan review criteria.	11/94	E. J. Kahal
94-0196		After approval of the Screening Checklist Procedure, a letter will be sent to the affected divisions and facility management for implementation.		E. J. Kahal
94-0197		Revise Employee Safety Manual 8Q procedures 35 and 36 to better address hazards review for D&D activities.	3/95	S. Patton

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site
Vulnerability Number: CSVR-SRS-0000-01
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0198	Lead job at 784-A(U). Initially, the contract specified a torch-cutting operation. Instead, work involved torch-cutting of carbon steel painted with a lead-based paint. This change in process required the subcontractor to provide medical surveillance and lead training for personnel before the work was started. Consequently, the project was delayed. Had the work been allowed to start, overexposure to lead was possible. 773-A and 735-A Carpet Removal. Initially, the industrial hygiene representative was informed that the project was only to remove a carpet. During removal of that carpet, asbestos-containing tile was found under the carpet. Due to the asbestos, this project required several personnel numerous overtime hours to complete. DOE 5480.23 requires chemical safety analysis and hazard analysis information to be developed or updated for nuclear facilities.	The Site Lead Committee will develop a lead compliance program to coordinate lead removal and management to be consistent with initiatives to address employee exposure, waste, and environmental issues associated with lead. An asbestos management function was formed in the Engineering & Projects Division to ensure that SRS cost-effectively complies with existing asbestos regulations through following a dedicated central direction and by controlling sitewide asbestos abatement functions.	10/94 In progress	S. Jahn R. Blundy

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-01**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Site personnel from the Facility Regulatory Compliance Group stated that some safety-related documentation at the Savannah River Site (SRS) has not been updated for almost 10 years. Old Safety Analysis Reports (SARs) may not contain up-to-date chemical safety and hazard analysis information. A schedule for SAR updates shows that update of some SARs may not be completed for several years. While the SARs for nuclear facilities are being updated (long term), the Bases for Interim Operations (BIOs) should capture the chemical analysis information sooner.	While some safety-related documentation may be up to 10 years old, most SRS SARs are not. Existing SARs satisfy the requirements that were active at the time of their preparation. WSRC continually strives to improve safety documentation and has submitted a detailed implementation plan for DOE Order 5480.23. BIOs are being developed on an accelerated basis and will satisfy the need for chemical analysis. Some BIOs have already been approved by DOE (F-Canyon), while others have been submitted for approval (SRTC, SWDF). The last BIO is tentatively scheduled for submittal to DOE in FY-95.	In progress In progress	S. R. Salaymeh S. R. Salaymeh

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-01**
Point of Contact: **E. J. Kahal/S. R. Salaymeh**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	DOE 5481.1B requires chemical safety analysis to be developed for nonnuclear facilities. Nonnuclear facility SARs have not been developed at SRS. Chemical safety analysis and hazards analysis are not complete for the nonnuclear facilities.	The assessment team recognized that SRS is taking positive actions to determine which nonnuclear facilities will be required to have an SAR. WSRC and DOE-SR are currently determining the best way to implement DOE 5481.1B in the absence of definitive HQ guidance.	In progress	S. R. Salaymeh
	Headquarters, DOE, implementation guidance has not been provided.	SRS will be implementing STD-5502-94. This DOE Standard addresses chemical hazard analysis.	In progress	S. R. Salaymeh
		Chemical hazard analyses are performed per the "Toxic Chemical Hazards Classification and Risk Acceptance Guidelines for Use in DOE Facilities," a Westinghouse M&O guidance document.	In progress	

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-01**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	A thorough hazards analysis review for chemical safety concerns related to D&D activities is especially important due to the lack of experience in this area. While most operating facilities have fairly well defined safe operating envelopes, the same can not be said for D&D activities. Many procedures to be used during D&D are relatively new to site personnel. Chemical residuals may also introduce unknown variables that must be addressed. The problems that can occur if hazards analysis is not adequately performed are demonstrated in the incident that happened at the 412-D Heavy Water Extraction facility. On November 11, 1993, a worker appeared to have inhaled toxic gases after a pipe that contained chemical residues was cut. Lack of an appropriate technical assessment and an appropriate chemical characterization was a contributing cause in the incident.	A thorough characterization and hazards analysis will be required before any D&D activity by the SRS SWER/TDD Department that is responsible for D&D of facilities. The Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued in June 1994. The Type B investigation was completed January 25, 1994.	Closed 6/94 Closed 1/94	G. Street/ B. Myers B. Myers

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site
Vulnerability Number: CSVR-SRS-0000-01
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Neither of the site welding manuals, SRSESM 050507-10R or CMP 11-10.1, identifies the need for technical assessment of any potential internal chemical contaminants that could be encountered during a cutting or welding of pipes or vessels. This requirement has not been incorporated into these manuals even though the incident at the 412-D Heavy Water Extraction facility occurred 6 months ago. This indicates that chemical safety is not adequately covered in some procedures.	SRSESM 050507-10-R (dated 9/30/92) identifies the need for technical assessment of potential internal contaminants. Several precautions addressed in this welding manual make special mention of fumes and precautions to address such hazards (ventilation, exhaust hoods, air flow rates, respirators). CMP-11-10.1 was revised and training began. WSRC has also consolidated the welding programs of WSRC and BSRI to ensure that welding control is uniform.	Closed Closed 6/94 Closed 2/94	D. Harrison D. Harold D. Harrison

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-01**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0195	In addition to their other duties, some members of the Industrial Hygiene staff review as many as 50 work packages per week. Pressure is exerted on the department by work-package originators to provide quick turnaround of work packages. As D&D activity increases, this problem will increase. In addition, the industrial hygiene staff is not always required to be involved during pre-bid activities for subcontracts. As a result, industrial hygiene review of internal work packages may not always provide for a complete and thorough job hazards analysis before work is started.	An Industrial Hygiene Screening Checklist Procedure for the Site Industrial Hygiene 4Q Manual will be delivered to the Management Standards Review by November 30, 1994. This procedure will outline work package and job plan review criteria.	11/94	E. J. Kahal
94-0196		After approval of the Screening Checklist Procedure, a letter will be sent to the affected divisions and facility management for implementation.		E. J. Kahal
94-0197		Revise Employee Safety Manual 8Q procedures 35 and 36 to better address hazards review for D&D activities.	3/95	S. Patton

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-01**
Point of Contact: **E. J. Kahal/S. R. Salaymeh**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	The Westinghouse Savannah River Company (WSRC) technical staff believes that the use of pre-mixed sodium tetraphenylborate solution at the In-Tank Precipitation Facility, being delivered on an as-used basis, will preclude the possibility of excessive in-tank degradation of the active reagent and minimize the inventory (and hence chemical vulnerability) of this process chemical. The decision to proceed in this manner has not been finalized even though the facility is being prepared for startup. The 188,000-gallon tank was designed and constructed based on limited options related to existing vendor capability. The requirement for this large tank has now disappeared, and recent vendor problems with sodium tetraphenylborate storage and processing indicate that smaller onsite quantities of this solution are advisable.	A task team reviewed potential storage and delivery options. The team recommended (and the plant has accepted) modifying the unloading station such that the storage tank is bypassed. The sodium tetraphenyl borate (STPB) will be unloaded from the tanker straight to Tank 48 (thus alleviating the need for storage of large quantities of STPB in the facility).	Closed	D. Wood

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Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0199	A restricted workday case was recorded when an employee received second degree burns after being sprayed with 94 percent sulfuric acid from a broken (1-inch diameter) acid line. This line was not insulated, was unsurveyed for wall-thickness and deterioration, and was located such that the failure resulted in a 20- to 30-feet spray distance (which reached an employee walkway).	SRS will integrate the Predictive and Preventative Maintenance programs of various site maintenance organizations by use of a single set of procedures in the Maintenance Administrative Procedure 1Y Manual.	3/95	D. Harrison

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-01**
Point of Contact: **E. J. Kahal/S. R. Salaymeh**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	It was reported by WSRC emergency management personnel that there was a lack of concise facility-specific chemical safety analysis and chemical hazards analysis for facilities at SRS and this adversely affected the emergency preparedness program. Information from chemical safety analysis and hazard analysis is a basis for developing emergency preparedness plans and implementing procedures. These personnel also stated that hazardous chemical information has not been kept current in safety-related documents.	EMPP-001, "Standards for Development and Maintenance of Hazards Assessment," (5/2/94), establishes the SRS process for developing Emergency Preparedness (EP) Hazards Assessments (HA). The HA process includes the identification and characterization of hazardous materials performed in accordance with S-ESR-G-0001, "Electronic Screening of Chemical Inventory Information," Rev. 0 (12/28/93). Chemical inventory information specific to the EP HA criteria is made available in each HA that is issued as a facility engineering technical report. EP HAs establish the basis for facility emergency planning programs. Safety documentation is being upgraded in accordance with an Integrated Plan, and it addresses chemical hazards analysis within the context of revising each facility's SAR. SAR Preliminary Hazards Analysis reports, based on DOE Standard 1027 screening criteria, identify hazardous materials inventories to establish SAR analytical approaches and provide an additional source of chemical inventory information.	In Progress	J. W. Lightner

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

Vulnerability:

The knowledge and characterization of chemical residuals at some facilities are not adequate.

Summary of Vulnerability:

There is inadequate knowledge and characterization of chemical residuals at some facilities being prepared for D&D. Poor configuration management in the past, and loss of experienced personnel, have contributed to this lack of knowledge regarding chemical residuals. A formal program to characterize residuals at surplus facilities being prepared for Decontamination And Decommissioning (D&D) is not established. Also, hazards analysis performed related to D&D activities in some cases is inadequate.

Response:

At SRS, the Transition D&D (TD&D) Department is responsible for D&D after facilities are transferred from DP to EM. In transition, surplus facilities are first deactivated, and a safe-storage mode is established with surveillance and maintenance. D&D will not begin at most facilities for several years after shutdown. Before any D&D begins, characterization and hazards analysis will be completed. Specific requirements and procedures for the facility involved will be provided before D&D. These activities are specified in the Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," issued in June 1994.

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0200	The knowledge and characterization of chemical residuals at some facilities is not adequate. A formal program to characterize residuals at surplus facilities being prepared for D&D is not established.	Determine method of choice for atmospheric sampling of unknown gases. Ensure that all transition and D&D related activities conducted by all divisions follow guidelines of the TD&D manual regarding characterization, etc. Most facilities will proceed from operations to D&D via the Transition Process outlined in the TD&D Manual. The Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued in June 1994.	12/94 Closed 6/94	C. Stoyle G. Street

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	WSRC has established a D&D policy that defines the actions necessary to transition surplus facilities from an operating status to D&D. The policy has not been implemented, and detailed requirements are not in place for transfer of shutdown facilities to the Office of Facility Transition and Management (EM-60). Recent direction from Headquarters, DOE, accelerated the schedule for this program to within the next 6 months versus 18 months as originally scheduled. Resource constraints and an accelerated implementation schedule may not permit proper planning and characterization of chemical hazards before facilities are transitioned to EM-60.	In this observation, "decommissioning" should have been used rather than D&D. Most facilities will proceed from operations to D&D via the Transition Process outlined in the TD&D Manual. The Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued in June 1994. DOE is in the process of making a decision on the date for transfer of facilities at SRS from DP to EM. This could occur as early as January 1995. Characterization can occur after facilities are transferred to EM-60.	Closed 6/94	G. Street
	On November 11, 1993, a worker at the 412-D Heavy Water Extraction Facility appeared to have inhaled toxic gases after a pipe that contained uncharacterized chemical residues was cut. Lack of an appropriate technical assessment was a contributing factor in the incident. On November 12, 1993, the Manager of the Savannah River Operations Office directed that a Type B Investigation be conducted in accordance with DOE 5484.1. The Investigation Board recognized that the Savannah River Site (SRS) had insufficient controls in place to prevent the toxic gas inhalation.	An engineer was assigned for technical review of all 412-D work packages and line breaks. Cognizant technical hazard reviewers were also assigned to assess all 412-D activities.	Closed 12/93	B. Myers

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Welding and cutting procedures were not in place to guide activities in which potentially hazardous materials existed. The final report was issued on January 25, 1994; however, recognition of the need for technical assessment of internal contaminants that could be encountered during welding or cutting of a pipe or vessel has not been incorporated in either of the site welding and cutting manuals, SRSESM 050507-10-R or CMP 11-10.1. The Board also recognized the lack of experienced technical personnel to support the work planning process. Many workers have taken early retirement (approximately 2500), resulting in loss of historical familiarity with facilities. Facility shutdown and preparation of facilities for transition to D&D have forced many workers to find new jobs on site, sometimes using new skills in new surroundings.	SRSESM 050507-10-R (dated 9/30/92) identifies the need for technical assessment of potential internal contaminants. Several precautions addressed in this welding manual make special mention of fumes and precautions to address such hazards (ventilation, exhaust hoods, air flow rates, respirators). CMP 11-10.1 was revised and training began. WSRC has consolidated the welding programs of WSRC and BSRI to ensure that welding control is uniform. A highly experienced core group of personnel was left in the Reactors Division to plan and implement transition. This was the SRS operation most influenced by the reduction-in-force and is the area now involved most in transition.	Closed 2/94 Closed 6/94 Closed 2/94 Closed	D. Harrison D. Harold D. Harrison G. Street

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	During a walkthrough of the 412-D Heavy Water Extraction Facility by team members, chemical residue was observed in a section of pipe that had been cut by a welding torch. The residue appears to be very similar to the residue involved in the incident on November 11, 1993. Pipes continue to be removed using the original welding and cutting procedures. On April 25, 1994, a work package, dated March 1994, was reviewed by team members to determine what employee protective measures were taken. The package requires fans when prevailing wind conditions are not adequate to remove toxic fumes. At times, asbestos and acid gas respiratory protection is required (The employee at the site was wearing respiratory protection.). The supervisor verified this procedure was required to ensure protection. Employees are trained concerning hazards to be expected during the job. Water is sprayed on the cut after completion to reduce the temperature and, thus, stop any exothermic reaction.	The residue shown to the investigators was present in various amounts throughout the entire complex at 412-D. Piping has continued to be removed but not using the original procedures. An engineer was assigned for technical review of all 412-D work packages. The original package has been revised to mandate forced air ventilation, if existing draft ventilation is insufficient. It also requires the dousing of any torch cut residue to ensure gases are not generated, and it requires the use of barricades. Employees received further training once the hazards were identified.	Closed Closed Closed	B. Myers B. Myers B. Myers

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-02**
Point of Contact: **E. J. Kahal/S. R. Salaymeh**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	In the self-evaluation submission, WSRC identified an additional oily substance in the base of the hot and cold towers with a pH of approximately 1. While sampling and analysis has been initiated, it has not been vigorously pursued. On reviewing sampling data at the 400-D Heavy Water Extraction facility, an analytical report for another oily substance showed a pH of approximately 3.3. A toxicity characteristic leachate procedure was not completed for this substance nor was an attempt made to identify other residue that could be present in the towers.	Several samples of the oil/water mixture were analyzed, and the bulk volumes were collected when they were encountered as the work progressed through the columns. The sample for the oil/water TCLP was sent to Weston Labs on 3/29/94 and was received back on 4/15/94 to the Site Sample Management Program organization. The analysis showed a RCRA hazard due to 20.5mg/l total chromium. The TCLP sample of solids found in the system was sent for analysis.	Closed Closed	B. Myers B. Myers

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-02**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	During a walkthrough of the 184-P Power House, which is an abandoned facility, chemical residue was observed at a clean-out door of the smoke stack. The residue was yellow-gray in color and approximately 4 feet in diameter. The area in which the residue was located was open to the elements and drained to the coal-runoff basin. WSRC personnel questioned regarding the chemical composition of the residue did not know the characterization. Subsequent to the walkthrough, WSRC used x-ray diffraction techniques to analyze the deposit, and it found iron aluminum sulfate as the major constituent. Analysis for organic compounds has not been conducted. The analysis for organic compounds would be necessary before this facility is transitioned to EM-60 for D&D. Having an uncharacterized chemical residue is a concern for planning any D&D activity.	The chemical residue initially observed has been disposed of. More has been located inside the stack. It has been sampled, and analyses have been performed. The results were issued at the end of June 1994. Results of the report were negative for organics.	Closed 6/94	P. Livengood

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

Vulnerability:

In some areas, knowledge about chemicals and chemical inventory and the hazard communication programs is not adequate.

Summary of Vulnerability:

In some cases, important information relevant to chemical safety is not being communicated to workers and management. Situations exist where extremely hazardous chemicals are not tracked, hazards are not adequately communicated, and understanding of chemical safety is incomplete. Expertise is not always shared by divisions and facilities to provide the most up-to-date working knowledge of hazards associated with operations activities.

Response:

WSRC has a mechanism for tracking extremely hazardous chemicals; however, the system does not operate in real-time. Site procedures require operating groups to report the presence of any extremely hazardous chemical within 30 days so that it can be reported to the local Emergency Planning Commissions and State authorities (as well as to the Site Fire Department). The issue of real-time reporting will be explored as the new Chemical Commodity Management Center (CCMC) begins to enhance the current Chemical Inventory and Information System.

The WSRC CCMC concept was initiated in May of 1994. An Industrial Hygienist was assigned to this group in July 1994. Its mission will include the acquisition of all chemicals and chemical products, the dispositioning of unused or excess chemicals, and database support for site groups required to report chemical data and waste minimization initiatives to external agencies. These changes will help maintain a sitewide chemical inventory and a means of tracking some chemicals from procurement to ultimate use to excessing.

As a part of the writing/reviewing/approving process for the procurement of chemicals, criteria will include such things as evaluating non-hazardous substitutes and re-using current excess and existing inventories. Stores stock items will be reviewed for opportunities to reduce inventory and toxicity levels.

CHEMICAL SAFETY VULNERABILITY REVIEW
September 1994

Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	There is no system in place at Westinghouse Savannah River Company (WSRC) for managing all aspects of chemicals from procurement to ultimate use and final disposition as either waste or excess. Furthermore, there is no system for tracking extremely hazardous chemicals once they arrive onsite. Although WSRC has recognized this issue and is establishing a Chemical Commodities Management Center, this organization is not expected to be fully functional until the end of 1994. Lack of a system to track extremely hazardous chemicals represents a vulnerability over the short-term (until the new group is functional).	The WSRC CCMC concept was initiated in May of 1994. Its mission will include the acquisition of all chemicals and chemical products, the dispositioning of unused or excess chemicals, and database support for site groups required to report chemical data and waste minimization initiatives to external agencies. This will include the maintenance of a sitewide chemical inventory and a means of tracking some chemicals from procurement to ultimate use, to excessing. As a part of the writing/reviewing/ approving process for the procurement of chemicals, criteria will include such things as evaluating nonhazardous substitutes and re-using current excess and existing inventories. Current stores stock items will be reviewed for opportunities to reduce inventory and toxicity levels.	Closed 5/94	R. W. Reynolds
		An Industrial Hygienist was assigned to the CCMC in July 1994.	Closed 7/94	R. E. Moore
94-0201		Benchmark Study of Chemical Tracking/Excess.	11/94	R. W. Reynolds

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0202		CCMC will be fully staffed/functional, which includes review of chemical requisitions for industrial hygiene/environmental concerns and consolidation of excess chemical data from current excess chemical facilities onsite.	12/94	R. W. Reynolds
94-0203		Evaluate Stores' Chemical Stock Items.	3/95	R. W. Reynolds
94-0204		Write/review/approve Site Chemical Requisitions Centrally.	6/95	R. W. Reynolds
94-0205		Initiate Upgrade for Excess Chemical Warehouse.	6/95	R. W. Reynolds
94-0206		Initiate Excess Chemical Tracking System.	6/95	R. W. Reynolds
94-0207		Initiate Excess Chemical Sale System Resulting In High Re-use Rate.	6/95	R. W. Reynolds
94-0208		Enhance current site chemical inventory system that will improve timeliness and quality of data.	9/95	E. J. Kahal
94-0209		Initiate Site Chemical Tracking System to include extremely hazardous chemicals.	12/95	R. W. Reynolds
94-0210		Finalize Excess Chemical Warehouse Upgrade.	6/96	R. W. Reynolds

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	The present WSRC lessons-learned program provides thorough information for WSRC management and operating personnel from both internal and external sources. The program does not specifically separate and highlight chemical safety topics for use by WSRC organizations. This hinders communication of important chemical safety information to workers. WSRC plans to modify the lessons-learned program within the next six months to identify chemical safety as a specific topic.	The implemented corrective action program: - Identified a list of chemical industry periodicals that provide a good coverage of current chemical industry issues, events, and significant technical findings, and - Have the Site Lessons Learned Staff screen the material in these sources for use in the Lessons Learned Program.	Closed 5/94	G. Ridgely
94-0211	A comprehensive Hazard Communication Program that included hazard evaluation, Material Safety Data Sheets (MSDS), hazard warning labels, and information and training has been prepared and implemented at the Savannah River Site (SRS). Most aspects of the program are in place. However, flaws were observed in this program.	A committee was formed to investigate alternatives and propose recommendations to improve the distribution of MSDS. Recommendations from the committee are expected to be complete by October 1994.	Closed 7/94 10/94	E. J. Kahal E. J. Kahal

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Site/Facility: Savannah River Site **Vulnerability Number:** CSVR-SRS-0000-03

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0212	Inadequate labeling of containers was observed in the 320-M Analytical Laboratory, Reagent Preparation Laboratory. Several chemicals did not have the National Fire Protection Association (NFPA) labels that are required by the SRS Hazard Communication Program, and one bottle containing nitric acid was labeled with the chemical formula only. The NFPA labeling system does not consider the target organ in its warning of hazards associated with a chemical.	Training on labeling was addressed at a meeting of the site's Chemical Coordinators. Submit proposed new chemical label for management review.	Closed 6/94 12/94	E. J. Kahal E. J. Kahal
94-0213	MSDSs are the major tools for identifying hazards associated with chemicals and the actions necessary to mitigate exposures. Many MSDSs were not readily accessible at SRS. At the 734-A Cylinder Shed, MSDSs were stored in a trailer located more than 1 block from the storage area; in the Environmental Laboratory, room 129, MSDSs were kept in an administrative office isolated from normal laboratory activities; for the L Reactor Chemical Storage Building, Building 110-L, MSDSs were kept in the maintenance shop.	A committee was formed to investigate alternatives and to propose recommendations for improving the distribution of MSDS. Recommendations from the committee are expected to be complete by October 1994.	Closed 7/94 10/94	E. J. Kahal E. J. Kahal

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	When incompatible chemicals are stored together, spontaneous combustion is a concern. Incompatible chemicals were stored next to unsupported flammable gas cylinders; cylinders containing 10 percent methane and 90 percent argon were stored in an area labeled for storage of oxygen cylinders; cylinders containing 10 percent methane and 90 percent argon were stored in an area labeled for storage of empty oxygen cylinders. In the research laboratory supply room, 773-A Chemical Stores, gallon containers of nitric acid and hydrogen chloride acid were stored in the corrosive storage cabinet. A representative from the Industrial Hygiene Department took the compatibility chart for use as a training tool.	A safety Representative and a Reactor Supervisor responded the next day. A site memo was issued to all chemical coordinators stressing the importance of cylinder storage. No incompatibility problem is seen with the storage of nitric and hydrochloric acids within the same corrosive cabinet. As stated in the observation, concerns were stated about the possibility of incompatible chemicals stored together causing spontaneous combustion. The immediate mixing of nitric acid and hydrochloric acid should not cause a spontaneous combustion. Industrial Hygiene instructed site chemical coordinators on chemical compatibilities.	Closed 8/94 Closed Closed 6/94	L. Averette E. J. Kahal L. Averette

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Site/Facility: Savannah River Site

Vulnerability Number: CSVR-SRS-0000-03

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Neither of the site welding manuals, SRSESM 050507-10-R nor CMP 11-10.1, identifies the need for technical assessment of any potential internal contaminants that could be encountered during welder cutting or welding of pipes or vessels. This requirement has not been incorporated into those manuals even though an incident occurred 6 months ago at the Heavy Water Extraction facility.	SRSESM 050507-10-R (dated 9/30/92) identifies the need for technical assessment of potential internal contaminants. Several precautions addressed in this welding manual make special mention of fumes and precautions to address such hazards (ventilation, exhaust hoods, air flow rates, respirators, etc.). CMP 11-10.1 was revised, and training began. WSRC has consolidated the welding programs of WSRC and BSRI to ensure that welding control is uniform.	Closed Closed 6/94 Closed 2/94	D. Harrison D. Harold D. Harrison
94-0195	Industrial hygiene review of work packages for hazard analysis is not always thorough and complete and may result in workers not being knowledgeable of the hazards associated with the job being performed. This is, in part, due to (1) pressure from work-package originators for quick turnaround of the work packages in the work review cycle and (2) not being requested to be involved at the pre-bid phase for subcontractor. The Lead job at 784-A and the carpet removal at 773-A & 735-A are examples described below.:	An Industrial Hygienist has been assigned to review TD&D and environmental restoration projects. This will help IH make better use of its staff. An Industrial Hygiene Screening Checklist Procedure for the Site Industrial Hygiene 4Q Manual will be delivered to the Management Standards Review by November 30, 1994. This procedure will outline work package and job plan review criteria.	Closed 5/94 11/94	R. E. Moore E. J. Kahal

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-03**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0196		After approval of the Screening Checklist Procedure, a letter will be sent to the affected divisions and facility management for implementation.		E. J. Kahal
94-0198	Lead Job at 784-A(U). Initially, the contract specified a torch-cutting operation. Instead, the work involved torch cutting of carbon steel painted with a lead-based paint. This change in process required the subcontractor to provide medical surveillance and lead training for personnel before the work was started. Consequently, the project was delayed. Had this work been allowed to start, overexposure to lead was possible.	The Site Lead Committee will develop a lead compliance program to coordinate lead removal and management to be consistent with initiatives to address employee exposure, waste, and environmental issues associated with lead.	10/94	S. Jahn
94-0197	773-A and 735-A Carpet Removal. Initially, the industrial hygiene representative was informed that the project was only to remove a rug. During removal of the rug, asbestos containing tile was found under the rug. This process required several personnel to work numerous overtime hours.	An asbestos management function was formed in the Engineering & Projects Division to ensure that SRS cost-effectively complies with existing asbestos regulations through following a dedicated central direction and by controlling sitewide asbestos abatement functions.	In progress	R. Blundy

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Site/Faciltiy: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-04**

Vulnerability:

The Westinghouse Savannah River Company (WSRC) lacks a fully developed and implemented chemical safety program.

Summary of Vulnerability:

WSRC management systems for chemical safety are not fully implemented, and no overall program is in place for the entire site. This situation arises in part from chemical safety requirements being spread throughout multiple Department of Energy (DOE) Orders. Chemical safety initiatives have been started by several different WSRC organizations, and a Chemical Commodities Management Center concept is in the early stages of development. Until these management systems are developed and implemented uniformly across the site, the effective management and control of hazardous chemicals at the Savannah River Site (SRS) are diminished.

Response:

Chemical safety, as a sitewide program, has not been coordinated as a single unit or under a single group. Figure 1, discussed earlier, shows how the Site Safety Review Committee charter will be enhanced to include a person assigned with the responsibility of sitewide coordination of the chemical safety program. The Site Safety Review Committee is made up of senior managers whose mission has been to ensure that programs are covering all aspects of safety and that safety issues are resolved. The Process Safety Management Subcommittee, which addresses the Occupational Safety and Health Administration Process Safety Management requirements rule (and will address the EPA proposed RMP rule as appropriate), and the newly formed Chemical Commodity Management Center, will both serve as key resources for the Site Safety Review Committee. These groups will establish sitewide networks of line organization coordinators to address chemical safety issues. The line organizations will be responsible for implementation of any new initiatives.

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Site/Facility: Savannah River Site
Vulnerability Number: CSVR-SRS-0000-04
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0214	WSRC lacks a fully developed and implemented chemical safety program.	The charter of the Site Safety Review Committee (SSRC) has been revised to include the coordination of a Site Chemical Safety Program.	Closed	C. Wolfe
		Responsibility accepted by SSRC.	Closed 8/94	C. Wolfe
		Assign a cognizant member of the SSRC to be responsible for the coordinated Chemical Safety Program.	9/94	C. Wolfe

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Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-04**
Point of Contact: **E. J. Kahal/S. R. Salaymeh**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	WSRC has not implemented a consistent site-wide program to manage hazardous chemicals from procurement to ultimate use and/or disposition. Several organizations at SRS have established individual systems for handling chemicals, particularly those chemicals no longer needed. However, this is being carried out on a fragmented basis. Other aspects of managing chemicals on site, such as evaluating non hazardous substitutes, minimizing chemical inventories, tracking "bad actor" chemicals, and ultimately disposing of chemicals no longer needed, are either not in place or are being accomplished in a fragmented manner. In addition, discussions with Savannah River Operations Office (SR) personnel, who are completing a management assessment related to chemicals, confirmed the need for WSRC to implement a sitewide system for managing chemicals that are no longer in use.	The WSRC CCMC concept was initiated in May of 1994. Its mission will include the acquisition of all chemicals and chemical products, the dispositioning of unused or excess chemicals, and a database support for site groups required to report chemical data and waste minimization initiatives to external agencies. This will include the maintenance of a sitewide chemical inventory and a means of tracking some chemicals from procurement, to ultimate use, to excessing. As a part of the writing/reviewing/ approving process for the procurement of chemicals, criteria will include such things as evaluating nonhazardous substitutes, and re-using current excess and existing inventories. Current stores stock items will be reviewed for opportunities to reduce inventory and toxicity levels.	Closed 5/94	R. W. Reynolds
94-0201		Benchmark Study of Chemical Tracking/Excess.	11/94	R. W. Reynolds

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-04**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0202		CCMC will be fully staffed/functional, which includes review of chemical requisitions for industrial hygiene/environmental concerns and consolidation of excess chemical data from current excess chemical facilities onsite.	12/94	R. W. Reynolds
		Evaluate Stores' Chemical Stock Items.	3/95	R. W. Reynolds
94-0203				R. W. Reynolds
94-0204		Write/Review/Approve Site Chemical Requisitions Centrally.	6/95	
94-0205		Initiate Upgrade for Excess Chemical Warehouse.	6/95	R. W. Reynolds
94-0206		Initiate Excess Chemical Tracking System.	6/95	R. W. Reynolds
		Initiate Excess Chemical Sale System Resulting In High Re-use Rate.	6/95	R. W. Reynolds
94-0207				E. J. Kahal
		Enhance current site chemical inventory system that will improve timeliness and quality of data.	9/95	
94-0208				R. W. Reynolds
		Initiate Site Chemical Tracking System To Include Extremely Hazardous Chemicals.	12/95	
94-0209				
94-0210		Finalize Excess Chemical Warehouse Upgrade.	6/96	R. W. Reynolds

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Site/Facility: Savannah River Site
Vulnerability Number: CSVR-SRS-0000-04
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	WSRC management has recognized the need for developing programs to deal with most of the above issues. In response, WSRC is developing a Chemical Commodity Management Center that will provide centralized management of chemicals across SRS, but that center is not scheduled to be fully operational until the end of 1994.	See response on previous page.	6/96	R. W. Reynolds
	DOE has not promulgated the requirements for chemical safety in a single DOE Order. Instead, the requirements are spread throughout multiple orders that have the effect, in part, of making different parts of the contractor organization responsible for their implementation. This in turn makes chemical safety program implementation more susceptible to fragmented implementation, Particularly at large sites such as SRS.	In the absence of DOE-HQ integrated requirements for chemical safety, WSRC is integrating the chemical safety programs and associated activities as described in this report.	Closed	F. Beranek

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-04**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	In the P-Reactor Area, personnel have been assigned to identify excess chemicals in various locations throughout the area. Chemicals found are placed in the Reactor Division Chemical Salvage program. Some of the chemicals found were not clearly identified or labeled. This indicates a lack of chemical inventory control and has a negative effect on emergency planning for chemical releases from the area.	An excess chemical facility has been established in P Area. This facility is not so much established to identify chemicals, as all chemicals are inventoried on the annual SARA Tier II, but rather to collect and distribute those chemicals that are no longer used. During the collection process, some chemicals did not have labels. These chemicals are sampled for content and labeled accordingly. All Reactor Division areas have been resurveyed, and it is estimated that the program is 90 percent complete, with expected completion by the end of the fiscal year.	Closed	B. Myers
	WSRC plans to implement a Surplus Facilities Transition Program to formalize requirements for transitioning surplus facilities from an operating status to decontamination and decommissioning (D&D). When implemented, this program will require characterization of each facility with respect to chemical residues. This program is not currently in place.	At SRS, no facilities have made the transition to EM-60. In this survey, the transition process was not understood. The transition program does not lead to early D&D. Most facilities will proceed from operations to D&D via the Transition Process outlined in the TD&D Manual. The Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," was issued June 1994. DOE is in the process of making a decision on the date for transfer of facilities at SRS from DP to EM. This could occur as early as January 1995. However, proper planning and characterization will occur. Characterization can occur after facilities are transferred to EM-60.	Closed 6/94	G. Street

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Site/Facility: Savannah River Site **Vulnerability Number:** CSVR-SRS-0000-04
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	A recent SR surveillance report (94-SD-ISB-0143) on the WSRC Process Safety Management (PSM) program required by 29CFR1910.119 concluded that "WSRC has not provided site-wide direction or established a site-wide approach to PSM compliance and issues." The report noted that each WSRC line organization approached and interpreted the standard applicability requirements of PSM without clear sitewide involvement.	The WSRC Process Safety Management (PSM) Subcommittee has been given the task of providing sitewide direction regarding PSM issues and establishing a sitewide approach to PSM compliance. This subcommittee includes representatives from all site operating organizations, as well as SRTC, E&PD, Site Utilities and Analytical Laboratories, thus ensuring consistent interpretation and application of PSM requirements. The PSM Subcommittee will take the following actions:		S. R. Salaymeh
94-0215		Expand charter to include PSM criteria of 29 CFR 1910.119 PSM Rule (and 40 CFR 68 RMP as required).	11/94	S. R. Salaymeh
94-0216		Rewrite PHA procedure in 11Q Manual to reflect new PSM criteria and screening to identify SRS processes covered by PSM.	2/95	S. R. Salaymeh
94-0217		Rewrite SRS PSM Manual to incorporate new PSM criteria and PHA procedure.	4/95	
94-0218				

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-04**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0218		Provide training on new procedure and expanded PSM program.	6/95	S. R. Salaymeh
94-0219		Monitor consistency of PHAs for input to SARs and BIOs.	8/95	S. R. Salaymeh
94-0219	WSRC does not plan to formally implement a PSM program until Fiscal Year 1995 because there are no hazardous chemicals onsite in quantities that meet or exceed Threshold Quantity Levels (TQLs). Nevertheless, this program will be required for compliance with the currently proposed Environmental Protection Agency rule for hazardous chemicals or when quantities of chemicals meet or exceed the TQLs.	PSM will be implemented as described above.	8/95	S. R. Salaymeh
	The present WSRC lessons-learned program provides thorough information for WSRC management and operating personnel from both internal and external sources. However, the program does not specifically separate and highlight chemical safety issues and information for use by the WSRC organizations.	The implemented corrective action program: - Identified a list of chemical industry periodicals that provide a good coverage of current chemical industry issues, events, and significant technical findings, and - Have the Site Lessons Learned Staff screen the material in these sources for use in the Lessons Learned Program.	Closed 5/94	G. Ridgely

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Site/Facility: Savannah River Site
Point of Contact: E. J. Kahal/S. R. Salaymeh
Vulnerability Number: CSVR-SRS-0000-04

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0220	Completion of training is not consistently verified before personnel access is granted to work areas where hazardous chemicals are located. An exception to this is at the Tritium and HB-Line areas where access is limited through issuance of proximity badges to only those personnel who have completed facility-specific orientation training. No other area of SRS has this requirement. Under these conditions, the potential exists that personnel could be exposed to hazards due to lack of training and would not know what to do in the event of an emergency.	Item will be introduced to the Executive Committee of the Facility Management Council for consideration.	9/94	George Clare, Chairperson

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-04**
Point of Contact: E. J. Kahal/S. R. Salaymeh

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
94-0221	Training requirements for many contractor and subcontractor positions at SRS are not consistently defined or controlled. Training and qualification programs for operators and supervisors are being upgraded substantially in some facilities, such as the H and F Tank Farms and the Effluent Treatment Facility. In these facilities, a qualification and requalification program is being established, although it is not scheduled to be fully implemented before 1996. Formal training improvement plans do not exist for most remaining facilities at the site, and a goal for sitewide consistency has not been established.	Site Training Manual 4B will be rewritten to cover the training and qualification program. Training and qualification requirements for operators and supervisors at all site nuclear facilities are identified in DOE 5480.20. These requirements are either met for the operators and supervisors in these nuclear facilities or will be met on schedule* approved by the Savannah River Operations Office. Chemical Safety considerations are addressed in training for personnel in nonnuclear facilities onsite via GET, CAT, and, where applicable, OSHA training. * WSRC Training Implementation Matrix WSRC-RP-92-226	6/95	Tony Hinson

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Site/Facility: Savannah River Site **Vulnerability Number: CSVR-SRS-0000-05**
Point of Contact: E. J. Kahal/S. R. Salaymeh

Vulnerability

Shifting Departmental priorities are having an adverse effect on the site's overall chemical safety program.

Summary of Vulnerability:

Evolving DOE and SRS missions are resulting in workers being shifted from production work in facilities they are familiar with to cleanup work in less familiar surroundings. Declining budgets are resulting in limited resources to address chemical safety. Continued loss of experienced personnel through early retirement, and possible reductions in environment, safety, and health (ES&H); quality assurance; and facility maintenance resources may occur in future years at the same time that D&D activities are increasing.

Response:

Conduct of Operations, a formal, disciplined process for conducting work, is especially important when change is taking place. The correct process for decommissioning a facility must be followed to reduce chemical safety vulnerabilities. Shutdown facilities will be deactivated by experienced personnel who have operated the facility; this includes removing all waste and chemicals from the facility. Vessels and lines will be flushed, and the facility will be characterized and conditions documented. A safe storage condition will be achieved and surveillance and maintenance provided to ensure conditions remain acceptable. After consideration of reuse and analysis of options, D&D will be planned. In most cases, D&D of facilities will occur 5 to 10 years after the facility is shutdown. A critical need is that adequate resources be provided to ensure that the proceeding sequence of activities occurs and that the knowledge of current operating personnel is used to achieve these conditions. These activities are specified in the Basic Requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," issued in June 1994.

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Site/Facility: Savannah River Site **Vulnerability Number:** CSVR-SRS-0000-05

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	A critical need is that adequate resources be provided to ensure that the sequence of deactivation, safe storage with surveillance and maintenance, and, finally, D&D occurs and that the knowledge of current operating personnel is used to achieve these conditions.	These activities are specified in the basic requirements document, "SRS Requirements Applicability Evaluation Program for Decommissioning," which was issued in June 1994.	Closed 6/94	G. Street
	Many facilities are being shut down and prepared for transition to D&D. This has forced many workers to find new jobs onsite, sometimes using new skills in new surroundings. Additionally, many workers have taken early retirement (approximately 2500), which has resulted in a significant loss of experience. While training programs are in place, the loss of experienced personnel with extensive experience in working with hazardous chemicals can have adverse affects on the overall chemical safety program.	Facilities are being shut down and deactivated; however, D&D will not occur immediately. Although there was a Reduction-in-Force in 1993, over 17,000 WSRC employees remain. The loss of experienced personnel working with chemicals was not significant.	Closed	G. Street

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Site/Facility: Savannah River Site

Vulnerability Number: CSVR-SRS-0000-05

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	WSRC does not have a formal program to address the loss of experienced personnel due to retirement and declining budgets. However, WSRC (1) regularly recalls retirees to review various areas when questions arise, (2) supports annual gatherings of SRS retirees, and (3) makes use of log books and operating records retained at the site. WSRC plans to continue this approach as SRS moves to increased D&D activity in the future. However, this leaves the potential for loss of corporate memory. To offset this loss, WSRC management plans to pursue conduct of operations and training when approaching future D&D projects. Nevertheless, erosion of the experience base is expected to occur as SRS moves to increased D&D activities.	While erosion of the experience base is a normal expectation, the actions described in the observation help minimize any adverse impact to site activities. The few SRS facilities now in D&D have been shut down from 8 to 30 years; however, adequate records and/or experienced personnel are available to assist in D&D planning. For example, retired personnel who operated 232-F are being contracted on a part-time basis to assist in D&D planning for 232-F. Some personnel who were involved in 412-D operation are still at SRS.	Closed	G. Street

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Site/Facility: Savannah River Site **Vulnerability Number:** CSVR-SRS-0000-05

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	Poor configuration management practices in the past have resulted in less than adequate documentation of chemical residuals at some older facilities. In many cases, knowledge related to problems that may be encountered during cleanup resides only in the memories of experienced workers. As older workers are lost through early retirement (or are replaced by employees not historically familiar with the facility) old problems may surface. This is exacerbated by the length of time between facility shut-down and the time the facility enters D&D.	Existing hazard analyses and SARs were prepared in accordance with requirements that were in place at the time of preparation. However, those requirements did not mandate full assessment of chemical hazards. BIOs and DOE 5480.23 SARs now being prepared will establish requirements for "residuals" with respect to ER and D&D activities. Currently, there is no DOE guidance for addressing residual quantities of hazardous chemicals.	Closed	E. Hallinan

CHEMICAL SAFETY VULNERABILITY REVIEW
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Site/Facility: Savannah River Site

Vulnerability Number: CSVR-SRS-0000-05

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	The availability of industrial hygiene staff to support activities at SRS is limited. Industrial hygiene support has been noted in past assessments as an area that needs improvement. However, due to continuing constraints on budgets, the situation remains about the same. Despite budget declines, the workload for industrial hygienists has not changed, and extensive overtime is required (the average industrial hygienist works 17 hours of overtime per week). This situation may result in people being less effective, with the possibility of important items being overlooked. WSRC industrial hygiene management is evaluating ways to make more effective use of these personnel, such as allocating them to more critical, higher priority work, and eliminating or changing the way existing lower priority tasks are performed.	The Industrial Hygiene & Respiratory Protection Section is faced with the same budget reductions that are impacting all WSRC organizations. Industrial Hygiene Management continues its aggressive programs of cost effectiveness and focusing resource allocation to high value services. While the initiatives have been successful to date, the ability of the IH&RP Section to continue achieving higher standards of service necessary to meet the demands of increasing regulatory compliance and changes in new Site missions are ultimately dependent upon maintaining current budget and staffing levels.	In progress	L. Thebo

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Site/Facility: Savannah River Site — Vulnerability Number: CSVR-SRS-0000-05

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	As part of an internal budget exercise, WSRC is studying the impact of funding decrements of as much as 30 percent in areas of ES&H, quality assurance, and maintenance. Such reductions, if implemented, would continue to diminish the overall industrial hygiene program effectiveness. (Hazardous Communication, Health Hazard Assessment, Hazard Prevention and Control, Purchase Approval Program, Chemical Monitoring, Heat Stress Management, Hearing Conservation).	These case studies are a part of the budget process.	In progress	L. Thebo

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Site/Facility: **Savannah River Site** Vulnerability Number: **CSVR-SRS-0000-05**

OSPACTS	Vulnerability/Observation	Action/Product	Due Date	Responsible Person
	The current five-year WSRC budget plan indicates an essentially constant Full-Time Equivalent (FTE) level for industrial hygiene and safety staff for Fiscal Years 1994 and 1995. However, the plan indicates a decline from 120 FTEs in Fiscal Year 1995 to 114 FTEs in Fiscal Year 1996 and a further decline to 107 FTEs by Fiscal Year 2000. This declining level of resources, crucial to supporting chemical safety, comes at a time when D&D and waste management activities are increasing at SRS. This apparent disparity, not having sufficient resources available to review the type hazards associated with an increasing and diverse D&D work environment, represents a potential vulnerability.	A team consisting of representatives of affected programs was assembled to address the identified chemical safety vulnerabilities. The team developed this management response plan.	Closed 9/94	F. Beranek
	Lack of sufficient resources and a DOE-imposed accelerated schedule for implementing the surplus facilities transition program may not permit proper planning and characterization of chemical hazards before D&D activities start.	D&D activities at SRS will not begin before proper planning and characterization are completed. Transition schedules may be accelerated, but this only means that ownership of the facilities is transferred from DP to EM. Characterization and deactivation can be completed after transfer. D&D will probably not begin for several years after deactivation is completed.	Closed	G. Street